YEAR 7 (2007)

MITIGATION/MONITORING REPORT

FOR

RIPARIAN IMPACTS ASSOCIATED WITH THE RUBINO DEVELOPMENT PROJECT

SAN JOSE, CALIFORNIA

Prepared for:

KB HOME
6700 Koll Center Parkway, Suite 200
Pleasanton, California 94566

Prepared by:

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulatory Consultants
1390 Willow Pass Road, Suite 370
Concord, California 94520

Phone: (925) 825-2111 – FAX (925) 825-2112
Contact: Jeff Olberding

May 2007

TABLE OF CONTENTS

ATTACHMENTS

ATTACHMENT NO. 1 FIGURES

This report should be cited as: Olberding Environmental, Inc. May 2007. *Year 7 Mitigation/Monitoring Report for Riparian Impacts Associated with the Rubino Development Project, San Jose, California.* 15 pp. plus attachments. Prepared for KB Homes, Pleasanton, California.

1.0 Summary

The following document has been prepared to present the Year 7 monitoring results for the Rubino Development Riparian Restoration Project (Restoration Project), located in San Jose, California. This report has been prepared as specified in the *Mitigation/Monitoring Plan for Riparian Impacts Associated with the Rubino Development Project*, prepared for KB Home by Olberding Environmental, Inc. (Olberding Environmental). Preparation of this report complies with the requirements established by the City of San Jose Planning Department in the "Conditions of Approval" developed for the Rubino Development Project.

The objectives of the Year 7 monitoring report are to ensure that plant survival goals continue to be met, to identify maintenance activities needed, to provide photo documentation points, to identify remedial actions to be performed, and to provide final conclusions on the establishment of riparian habitat within the riparian mitigation site for the specified year monitoring is conducted. The purpose of obtaining information on these monitoring elements is to evaluate the effectiveness of the revegetation project at providing the quality and quantity of riparian habitat along the Guadalupe River and Canoas Creek that meet or exceed habitat values and functions prior to project implementation. This monitoring report is the sixth of eight that shall be used to determine the overall success of the Rubino Development Riparian Restoration Project site (mitigation site). The mitigation site will be monitored over a minimum 11-year period to ascertain whether the performance and success criteria are being met. Monitoring will be conducted annually for the first five years starting in 2001 and then every other year until Year 11.

In summary, the mitigation site has an **88** percent cumulative survival rate for the Year 7 monitoring period as of April 21, 2007. This number represents a 3 percent decrease from the Year 5 monitoring period. A total of 689 plants were planted along the Canoas Creek and Guadalupe River mitigation areas, of which **606** were observed alive during the Year 7 monitoring period.

No remedial planting is necessary at this time. The plant vigor and health, and vegetative performance criteria, were also assessed for the mitigation area during Year 7. The majority of the plant species exhibited an average of medium or high vigor and health. The species composition was found to be well within the tolerated deviation of the mitigation plan. The trees and shrubs are continuing to spread over the ground providing a low to medium percent cover value. However, percent cover values would further increase with more regular grounds keeping maintenance. Overall, the mitigation site is developing on schedule and demonstrates a trend toward meeting the established success criteria.

2.0 Introduction

2.1 Project Background

The Rubino Development Project was required to mitigate direct and indirect impacts to the riparian corridor and setback buffer areas along the Guadalupe River and Canoas Creek. The direct impacts from the Rubino Project consisted of the encroachment into 0.25 acres of the existing riparian corridor along the Guadalupe River. Indirect impacts are associated with the encroachment of the project into the setback buffer areas of Canoas Creek and the Guadalupe River for a total of 1.37 acres.

The City of San Jose (City) has developed a Riparian Corridor Policy with the intent of minimizing impacts to riparian resources and protecting riparian habitat from future development activities. The City's Riparian Corridor Policy calls for a 100-foot buffer from the edge of the riparian corridor (dripline of riparian vegetation or top of bank when riparian vegetation is absent) to all buildings, structures, and improvements except in certain instances where setbacks of less than 100 feet are appropriate. A 50-foot buffer has been established along Canoas Creek. Development encroachment into the 50-foot setback buffer will result in the requirement of 2.18 acres of compensatory mitigation to offset impacts associated with the Rubino Development Project.

Mitigation measures have been implemented to offset project impacts to both riparian corridors. The mitigation plan included several distinct components that, when added collectively, provide up to 2.18 acres of riparian mitigation habitat infill area to compensate 0.25 acres of direct impact and 1.37 acres of indirect impact associated with encroachment into the existing riparian corridor and setback buffers of Canoas Creek and the Guadalupe River. It is anticipated that the mitigation habitat areas will significantly improve both riparian corridors by replacing the extremely degraded conditions that formerly existed within the setback buffer areas with a densely planted vegetated landscape. Additionally, sections of the setback buffer along the Guadalupe River have also experienced significant improvements in functional value to wildlife through the removal of debris, concrete, asphalt and other discarded materials. The mitigation site was installed by KB Home in 2000 following construction of the Rubino Development Project. A total of 1075 trees and shrubs were specified as being planted within the mitigation site.

2.2 Location

The 97-acre Rubino Development Project site is located north of Old Hillsdale Avenue, south of Bluejay Drive, single family residence and the Canoas Gardens Elementary School, and is situated between the Guadalupe River to the west and Canoas Creek to the east, in the City of San Jose, Santa Clara County, California (Attachment 1, Figures 1-4). The mitigation sites are identified in Attachment 1, Figures 5-7 and are bordered by Canoas Creek to the east, existing apartment buildings to the south and new residential development to the north and west. The mitigation sites can be accessed by the newly constructed extension of Pearl Avenue and Rubino Drive. Attachment 1, Figure 1 contains a regional map of the Restoration Project site in relation

to the Bay Area region, while Attachment 1, Figure 2 contains a vicinity map of the Restoration Project site in the City of San Jose. Attachment 1, Figure 3 displays the Restoration site on the USGS quadrangle map for San Jose West and San Jose East. Attachment 1, Figure 4 contains an aerial photograph of the Restoration Project site.

3.0 Maintenance Activities and Monitoring Methods

3.1 Maintenance Activities

KB Home has contracted with a landscape maintenance company to weed the mitigation site, replace plant stock and maintain the irrigation system, checking for leaks, clogs, or other malfunctions in the drip line system. Maintenance activities on the mitigation site have consisted of irrigation system checks, repair of planting basins, and weed control.

3.2 Monitoring Methods

Monitoring of the Restoration Project site was conducted on April 21, 2007 by Olberding Environmental biological monitor, David Simi. Site inspections were conducted within the mitigation site including visual inspections of the trees and shrubs that were previously installed. All plants were counted within the mitigation site during the Year 7 monitoring period as the plants had not overgrown each other to the extent that they were no longer identifiable as individuals. Monitoring zones identified on the as-built map sheets will be used once the individual plants are no longer identifiable. Therefore, percent survival calculations for the Year 7 monitoring effort are based on the total number of plants in the entire mitigation area. Each of the installed plants was individually counted and the ground adjacent to the plant marked with nonpermanent marking paint to avoid counting duplication. Each plant was counted and marked on the planting maps as present, dead, or missing. Additional information was gathered on plant vigor and health and recorded on field data sheets along with the number of volunteer plants that had grown within the mitigation site since Year 5 information was collected. Information gathered in 2007 was compared against baseline conditions established by Olberding Environmental in 2001.

The Restoration Project mitigation planting along the Guadalupe River is represented by the map sheets L-7 and L-10; while the mitigation planting along Canoas Creek is represented by map sheets L-14 and L-15 (refer to the sheet set in the Baseline Conditions Report). The data for each riparian area has been analyzed as a unit combining the data for the two map sheets representing each creek corridor.

3.3 Data Analysis

The number of plants that were counted as alive, dead, or missing were tabulated and analyzed as a percentage of the total number of specified plants within each creek corridor. The total number of plants that were observed alive was subtracted from the total number of plants known to be planted in each creek corridor to determine the number of remedial plants necessary to meet mitigation requirements. The percent survival for each species is based on the combined number

of dead and missing plants subtracted from the total as both of these categories need to be analyzed to compare to baseline specification numbers.

In the case where the number of plants counted during the monitoring period exceeded the number of plants specified on the specifications, the number of extra plants was subtracted from the total number of dead/missing plants for the entire site. The extra number of plants for a particular species was shown in the dead/missing column of the summary table and signified by parentheses (#). This number was then subtracted from the total number of dead/missing plants; hence a negative number would indicate excessive plants.

3.4 Performance Criteria

Percent cover and tree height were evaluated for the Restoration Project for the first time starting in Year 7. The goal for the mitigation site is to provide 60 percent total cover for trees and 40 percent total cover for shrubs within five years. These performance criterion values were not assessed during Year 5 monitoring period due to the relatively small size of the plants and the fact that the evaluation of this performance criterion would not have yielded a number large enough to quantify. These goals are not success criterion as the trees in the mitigation site are not anticipated to reach full maturity until sometime after the 11-year monitoring period. The current trend in growth, as observed on-site, indicate that the plants will reach the desired cover goals. Several of the shrub species such as toyon, blackberry, and California rose have grown to overlap each other in many areas of the mitigation site. If the plants continue to grow as anticipated, the trend will be toward meeting the percent cover goals for the mitigation site. Additionally, the western sycamore trees along Canoas Creek and Guadalupe River exhibited excellent canopy cover for their size. The tree canopy covered an approximate 12 to 18-foot diameter around the tree trunk. Photo point locations that demonstrate the mitigation sites were revisited and photos taken to record the 2007 conditions can be seen in Attachment 2.

4.0 Results

4.1 Planting Specifications

The plant species used for the baseline mitigation planting during 2000 consisted of California Buckeye (*Aesculus californica*), California Flannel Bush (*Fremontodendron californicum*), western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), Mexican elderberry (*Sambucus mexicana*), California toyon (*Heteromeles arbutifolia*), coffeeberry (*Rhamnus californica*), California rose (*Rosa californica*), and California blackberry (*Rubus ursinus*). However, the planting pallette for the mitigation sites specified two plant species that were not utilized in the planting during the baseline conditions. California buckwheat (*Eriogonum faciculatum*) and bush lupine (*Lupinus arboreus*) were replaced with snowberry (*Symphoricarpus* sp.) and buckbrush (*Ceanothus* sp.) respectively. One additional replacement plant species was observed starting in the Year 3 monitoring period called Pride of Madeira (*Echium* sp.). This plant was used along both Canoas Creek and the Guadalupe River planting areas to replace missing or dead plants from the baseline monitoring period.

4.2 General Conditions

Many weed species were observed to be growing in and immediately around the planting bowls of the mitigation species and within the general planting area during the 2007 monitoring event. The weed species consisted of common invasive plants which germinate in early winter at the first rains or with irrigation as provided by the mitigation site. Many of the weeds reached heights of 3 to 4 feet, with several reaching heights in excess of 8 feet. The weeds overtopped some of the mitigation plant material and were competing with the plants for water and resources in the planting bowl. The weed species observed consisted of prickly lettuce (*Lactuca serriola*), horseweed (*Conyza canadensis*), poison hemlock (*Conium maculatum*), red-stemmed filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), goosefoot (*Chenopodium album*), mustards (*Brassica* sp.), and miscellaneous annual grass species. The large size and excellent color of the weed species indicate that they were either able to utilize the irrigation provided by the sprinkler system that was intended for the mitigation species or that they took advantage of the late season rains this year.

Vegetative cover by weed species was 100 percent throughout the Restoration site (See Attachment 2). Based on the height and amount of weed species on the site, it appears that maintenance crews have not been out to weed the site or check irrigation lines for some time. Slight overspray of herbicides intended for invasive weed species was, again, observed to have negative impacts on the blackberry, snowberry, and coffeeberry shrubs lining the fence along Canoas Creek. Several shrubs, especially the toyon, flannel bush, and snowberry, appear to be drying out due to lack of water along the Guadalupe River and Canoas Creek.

4.3 Mitigation Planting Survivorship

The two types of success criteria which have been applied to the mitigation plantings are overall survival and cumulative survival. The overall survival for the mitigation site is 88 percent and is based on the survival of all plants in the mitigation area including replacement stock installed where original plants died. The cumulative success criterion is 60 percent and is based only on the number of the original plants installed within the mitigation area. As no replacement plants have been installed to date, there is only a percent calculated for the cumulative success of the mitigation planting.

The results of the survivorship count for the Year 7 monitoring are included in Table 1, "Survivorship for Year 7 Monitoring Period." The overall and cumulative survivorship for the mitigation site was 88 percent, which includes the Canoas Creek and Guadalupe River mitigation areas. The percent survival for Year 7 indicates a decrease in 3 percent from the 91 percent survival calculated during Year 5 monitoring. During the Year 1 monitoring event, 67 plants were recorded as dead or missing; during the Year 2 monitoring event, 51 plants were recorded as dead or missing; during Year 3, 45 plants were recorded as dead or missing; during Year 4, 83 plants were recorded as dead or missing; and during Year 5, 95 plants were recorded as dead or missing. These plants have often been replaced in an ongoing effort to maintain the original number of plants utilized in the mitigation effort. During the Year 7 monitoring event, 85 plants were recorded as dead or missing.

Overall, the survivorship for the mitigation planting areas along the Guadalupe River was much higher than observed for Canoas Creek. A higher mortality rate was observed among the planted shrubs than the trees. This was attributed to a number of factors (please see Table 2, "Survival Ratio for Trees and Shrubs"). The snowberry, coffeeberry, and blackberry shrubs in the Canoas Creek area were observed to have the highest mortality rate. These shrubs have still not fully recovered from the damage they received during weeding attempts from Years 3 - 5. Healthy plants were pulled from the ground or were cut to the base. There were 14 less coffeeberry plants and 3 less snowberry plants counted in the Canoas Creek area in comparison to Year 5. While the blackberry actually increased in individual plant survivorship from 137 in Year 5 to 141 in Year 7 thanks to recruits, increasing its percent survival from 61 percent to 63 percent, 81 plants were still counted as dead or missing. Despite the overall success of the site up to this point, the survival rate of the coffeeberry and snowberry have dropped to 26 percent and 60 percent, respectively. This represents a 14 percent decrease for the coffeeberry and a 3 percent decrease for the snowberry as compared to Year 5.

Table 1
Survivorship for Year 7 Monitoring Period

Planting Area	# Plants Alive/ # Plants Specified on Plans	% Survival
Map Sheet L-14 and L-15 (Canoas Creek)	455/539	84
Map Sheets L-7 & L-10 (Guadalupe River)	151/150	101
Total for Planted Rubino Development Project Mitigation Areas	**606/689**	**88**

Table 2
Survival Ratio for Trees and Shrubs

Plant Type	# Counted Alive	# Specified on Plans	% Survival
Trees	54	65	83
Shrubs	552	624	88
Total	606	689	88

5.0 Data Analysis

5.1 Plant Survival

The percent survival data for the mitigation monitoring of the mitigation sites is provided in Tables 3 and 4, "Species Summary for Map Sheet L-14 and L-15-Canoas Creek Planting," and "Species Summary for Map Sheets L-7 and L-10-Guadalupe River Planting." The number of plants counted alive, dead/missing, the number recorded on the map legend, and the percent survival are provided for each species by each planting area (Canoas Creek and Guadalupe River).

Table 3
Species Summary for Map Sheet L-14 and L-15 - Canoas Creek Planting

Common Name (Scientific Name)	# Counted Alive	Dead/ Missing 2005	Dead/ Missing 2007	# Plants Recorded on Map Legend	% Survival
Western Sycamore (*Platanus racemosa*)	17	3	3	20	85
Coast Live Oak (*Quercus agrifolia*)	6	2	2	8	75
Snowberry (*Symphoricarpus sp.*)	67	41	44	111	60
Coffeeberry (*Rhamnus californica*)	27	62	76	103	26
California Rose* (*Rosa californica*)	189	(108)	(114)	75	252
California Blackberry (*Rubus ursinus*)	141	85	81	222	63
Pride of Madeira (*Echium sp.*)	8	(5)	(8)	0	NA
Total Plants	**455**	**80**	**84**	**539**	**84**

* 114 rose recruits (grown by rhizome) were counted in addition to those planted.

Table 4
Species Summary for Map Sheets L-7 and L-10 - Guadalupe River Planting

Common Name (Scientific Name)	# Counted Alive	Dead/ Missing 2005	Dead/ Missing 2007	# Plants Recorded on Map Legend	% Survival
California Buckeye (*Aesculus californica*)	5	0	0	5	100

California Flannel Bush (*Fremontodendron californicum*)	1	6	6	7	14
Western Sycamore (*Platanus racemosa*)	12	0	0	12	100
Coast Live Oak (*Quercus agrifolia*)	11	1	1	11	100
Valley Oak (*Quercus lobata*)	2	0	0	2	100
Mexican Elderberry (*Sambucus mexicana*)	2	1	0	2	100
Snowberry (*Symphoricarpus sp.*)	13	2	3	16	81
California Toyon (*Heteromeles arbutifolia*)	14	10	11	25	56
Pride of Madeira (*Echium sp.*)	10	3	(3)	7	143
Coffeeberry (*Rhamnus californica*)	20	0	10	30	67
California Rose* (*Rosa californica*)	44	0	1 (20)	24	183
California Blackberry (*Rubus ursinus*)	17	(8)	(8)	9	189
Total Plants	**151**	**15**	**1**	**150**	**101**
* 21 rose recruits (grown by rhizome) were counted in addition to those planted.					

Trees

Overall, the survival ratio for the tree species was lower than exhibited in the shrub species. A total of 12 tree deaths occurred within the Guadalupe River and Canoas Creek planting areas within the Year 7 monitoring period. Three western sycamores and two coast live oaks were dead in the Canoas Creek mitigation area, while two flannel bush and one coast live oak were dead in the Guadalupe River mitigation area. Four additional flannel bush were missing in the Guadalupe River mitigation area. No further tree deaths were observed within the Year 7 monitoring period, however one sycamore and one buckeye appeared to be in poor condition on the south end of Guadalupe River, apparently from lack of water. The total number of trees counted as alive in 2007 is 54, and the total number specified by the planting plan is 65. Based

on the required number of trees for the mitigation area, the overall and cumulative survival is 83 percent.

Shrubs

The overall mortality rate for the shrub species was higher than the trees as 73 shrubs were recorded as missing or dead during the Year 7 monitoring event. During the Year 5 monitoring event in 2005, 48 missing or dead shrubs were recorded; during the Year 4 monitoring event in 2004, 75 missing or dead shrubs were recorded; during the Year 3 monitoring event in 2003, 45 missing or dead shrubs were recorded; during the Year 2 monitoring event in 2002, 48 missing or dead shrubs were recorded; while 64 shrubs were recorded as missing or dead during the Year 1 monitoring event in 2001. The combined missing and dead shrubs for Years 1-5 and 7 monitoring events is 353 out of the 624 installed for a survival ratio of 43 percent. However, due to remediation efforts and the volunteer growth of certain shrubs (namely the California rose), the survival ratio for the shrubs is 88 percent.

The mitigation areas along Canoas Creek experienced the largest number of mortalities in the shrub planting as there were 44 missing or dead snowberry plants and 76 missing or dead coffeeberry plants in Year 7. The majority of the snowberry and coffeeberry losses were attributed to accidental removal or damage by the maintenance crew. The rest were attributed to faulty irrigation lines and competition by overgrown weed species. The California blackberry suffered the biggest loss in the Year 7 monitoring event as 81 plants were recorded as dead or missing. The blackberry losses were attributed to over-spraying of herbicides and incidental weed whacking. Minor losses of snowberry, coffeeberry, and toyon due to over-spraying were also recorded.

5.2 Plant Vigor and Health

The qualitative assessment of overall plant vigor and health was evaluated for the mitigation planting areas based on the average health for each planted species. The averages of plant vigor and health were determined to fall under the following categories:

high (67-100% healthy foliage);
medium (34-66% healthy foliage); or
low (0 to 33% healthy foliage).

Table 5, "Summary of Plant Vigor and Health by Species" summarizes the analysis of the different plant species found in the Rubino Development Project mitigation area.

Table 5 Summary of Plant Vigor and Health by Species	
Plant Species	**Vigor and Health Rating**
Western Sycamore	High
Coast Live Oak	High
California Buckeye	High
California Flannel Bush	Medium to High
Valley Oak	High
Mexican Elderberry	Medium to High
Snowberry	Medium to High
California Toyon	Medium to High
Buckbrush	Low (all dead)
Coffeeberry	Medium to High
California Rose	Medium to High
California Blackberry	Medium to High
Pride of Madeira	High

The health and vigor of several species were excellent due to the excessive growth of the plants in comparison to the summer 2005 observations. The coffeeberry, California rose, western sycamore, coast live oak, valley oak, toyon, and California buckeye continued to grow very well and expand in size and demonstrate excellent leaf color and leaf abundance.

The coffeeberry plants were observed to have continued to grow very well and overlap each other where planted closely together. A band of shrubby vegetation continues to form in the areas where coffeeberry was planted in clusters. The shrubs continue to exhibit excellent leaf color, fruit, and expanding surface area in the spring of 2007, approaching 10 feet in height and expanding 15-20 feet in diameter.

The individual blackberry plants within the planting clusters are continuing to grow over each other, forming a mat of vegetation such as observed within a naturally established creek side area. Those bushes that are showing excellent growth are also sending runners across the planting area in excess of five feet. The runners are supporting dense leaf cover over most of the area in which the blackberry was planted and is exhibiting a mounding effect from new shoots. Accidental herbicidal spraying by the Santa Clara Valley Water District maintenance crews along the Canoas Creek levee located to the east of the restoration site has killed an estimated 85

blackberry shrubs from the summer of 2002 to the summer of 2005. This trend was not observed this year, as 4 more blackberry shrubs were observed in Year 7 as compared to Year 5 along the Canoas Creek corridor. Those plants that have survived are exhibiting vigorous growth. The blackberry plants may continue to recover if not sprayed again and will resume their current growth form that was beginning to establish in Year 1.

The California rose bushes have exhibited excellent growth during each successive year of monitoring and this year was no exception. Apparently benefiting from the late season rains this year, the rose bushes are among the most healthy and vigorous plants in the mitigation area. The amount of volunteers observed went from 95 in 2005 to 114 in 2007 in the Canoas Creek planting area. The number of volunteers in the Guadalupe River planting area decreased from 35 in 2005 to 21 in 2007 to due incidental weeding.

The snowberry shrubs that were not removed in 2002 maintenance activities were observed to exhibit medium to high vigor and health and demonstrated a sparse increase in leaves and in size. Four less snowberry shrubs were observed in 2007 as compared to 2005, for a total of 47 missing or dead snowberry as compared to the planting plans.

The mid-section of Canoas Creek was observed to demonstrate the healthiest growth of vegetation. The snowberry and blackberry shrubs have demonstrated excellent growth and the coast live oak has an abundance of acorn production. The live oaks should be evaluated for stake removal. Several coffeeberry, toyon, and sycamore trees were observed to be overgrowing the smaller shrubs in the growing area.

The toyon increased in size and leaf out, but decreased in survival percentage (from 60 percent to 56 percent) in comparison to Year 5. Eleven plants are still either missing or dead since their original planting. Some individual toyon plants were observed to have grown several feet in size along the Guadalupe River mitigation area and were over eight feet tall with robust healthy vegetation.

The western sycamore trees were observed to have grown substantially in comparison to the Year 5 conditions. During the spring of 2007, the trees were observed to be in high health. Three trees died in the summer of 2005 in the Canoas Creek planting area and were not replaced. One tree near the south end of the Guadalupe River looked to be in poor condition and should be attended to. The irrigation of the trees that have exhibited some yellowing and die back should be investigated. Overall, the sycamores look tall and healthy and are expanding their ground cover and diameter. These trees should have their stakes removed as soon as possible and with caution, as passerine nests were observed in these trees from 2003 to 2007.

One California flannel bush was observed to have died in the summer of 2003, another in the spring of 2004, and another in the summer of 2005. The reason for this die back appears to be from lack of irrigation. All together, six plants are either dead or missing in the Guadalupe River area, leaving only one surviving plant. The survival percentage for the flannel bush has stayed at 14 percent in 2007, as it did in 2005. The one remaining flannel bush is in excellent condition, showing vigorous growth, excellent leaf color, fruit, and expanding surface area in comparison to

the Year 5 conditions. The plant is approaching 10 feet in height and was in full bloom at the time of the survey.

The one Mexican elderberry shrub that was observed to have died in the Guadalupe River planting area in 2005 was replaced by the Year 7 survey. Both plants that are listed on the planting plans are now present within the site. Both plants appear to be in excellent condition, exhibiting excellent leaf color and having increased in size since the monitoring event of 2005. One of the elderberries is 15 feet, while the newly replanted one is approaching 5 feet.

The dead or missing Pride of Madeira observed in 2005 was replaced in the Guadalupe River planting area. Ten plants now exist in this area where the planting plans only call for seven. Each of these plants was observed to be healthy and is exhibiting vigorous growth, having increased greatly in size since the Year 5 monitoring event. All plants were in full bloom during the Year 7 monitoring event and were being used by a variety of insect and passerine species. The survival percentage for the Pride of Madeira has dramatically increased from 57 percent in 2005 to 143 percent in 2007.

The coyote brush shrubs planted in zones within the mitigation areas were observed to have suffered significant mortality rates in 2002. It appears that 50 percent of these shrubs have died or were pulled out during weeding efforts. Significant growth of the coyote brush was observed during the Year 5 monitoring event and continued into the Year 7 monitoring event, especially along the Canoas Creek corridor. While the coyote brush is no where near supplying the ground cover that it was intended to, it has exhibited significant growth since 2005 and appears to be spreading. While no quantitative numbers were established for the survival of the coyote brush, it should be noted that losses have occurred which will temporarily reduce the cover that these plants will provide in the mitigation area.

Unfortunately, the weed species throughout the site are also displaying excellent health in the form of leaf out, flowers, and expanded size and height. Weeds were observed within both the Guadalupe River and Canoas Creek planting areas, but were much more prevalent in the Canoas Creek corridor. Weed species in this area displayed 100 percent cover, reaching heights in excess of 8 feet and covering and obscuring several mitigation plant species.

5.3 Species Composition

The species composition within the mitigation area has been altered from the original plans as there were several substitutions within the baseline planting pallet (please refer to the Baseline Conditions Report). Snowberry was substituted for California buckwheat, and ceanothus and Pride of Madeira was substituted for bush lupine. All of the buckbrush (*Ceanothus* sp.) was found to be dead, thus reducing the number of species in the planting pallet. These changes account for 134 plants within the mitigation area and amount to 19 percent of the plant material. Changes in species composition have been incorporated into the baseline conditions and will be used as the basis to monitor future species composition against. The target goal for species composition allows for a 15 percent deviation within Years 1-5 and 25 percent deviation by Year

11. Species composition within the mitigation area is currently 100 percent of the revised planting pallet and therefore meets the given criteria.

5.4 Percent Cover

The goal for the mitigation site is to provide 60 percent total cover for trees and 40 percent total cover for shrubs within five years. These goals are not success criterion as the trees in the mitigation site are not anticipated to reach full maturity until sometime after the 11-year monitoring period. Percent cover and tree height were evaluated for the Restoration Project for the first time starting in Year 7. Based on the Year 7 monitoring event, total percent cover for trees is 70 percent, while total percent cover for shrubs is 60 percent. The average height for the buckeyes is 7 feet; the average height for the flannel bush is 10 feet; the average height for the sycamores is 30 feet; the average height for the live oaks is 12 feet; and the average height for the valley oaks is 12 feet.

These performance criterion values were not assessed during the Year 5 monitoring period due to the relatively small size of the plants and the fact that the evaluation of this performance criterion would not have yielded a number large enough to quantify. The current trend in growth, as observed on-site, indicate that the plants will reach the desired cover goals. Several of the shrub species such as toyon, blackberry, and California rose have grown to overlap each other in many areas of the mitigation site. If the plants continue to grow as anticipated, the trend will be toward meeting the percent cover goals for the mitigation site. Additionally, the western sycamore trees along Canoas Creek and Guadalupe River exhibited excellent canopy cover for their size. The tree canopy covered an approximate 12 to 18-foot diameter around the tree trunk.

6.0 Photo Documentation and Maps

Photo documentation transects were established for each map sheet to correspond to the vegetative data analysis for 2007. Transects were established in an east to west orientation and occur in 20-foot wide bands every 30 feet along the planting areas. Two additional photo documentation transects were established in the Archstone mitigation area. Please see Attachment 2 for specific photos of the mitigation monitoring site.

7.0 Remedial Actions to be Performed

< All workers who conduct weeding must be educated to differentiate between weed species and the restoration stock. Workers shall not pull weeds until they can determine the difference between weeds and restoration plants. This has been on ongoing problem since 2002.

< A dense growth of weeds was recorded in several areas of the mitigation site, especially along the Canoas Creek corridor. These weeds are competing with the mitigation plants for valuable resources in the planting bowls. Weeding needs to continue to be conducted

twice yearly as specified in the monitoring plan or until the plants reach a size that the weeds cannot penetrate the watering bowl due to the large size of the mitigation specimen.

< Replanting of snowberry, coffeeberry, blackberry, and toyon must be conducted to replace those plants that were removed over the last four monitoring years due to the accidental weeding by landscape work crews. A combination of snowberry, coffeeberry, blackberry, toyon and other species such as coast live oak, elderberry, and flannel bush should be used to replant the areas. Only two elderberry and one flannel bush are growing within the mitigation area and could be used instead of the snowberry and coffeeberry to increase the diversity of plants along the Canoas Creek corridor. In addition, coyote brush should be replanted as a significant number have died and were removed during weeding exercises. Replanting of snowberry, coffeeberry, blackberry, and toyon should be conducted at the expense of the landscape company that removed the plants.

< Replanting of snowberry, coffeeberry, blackberry, toyon, and California flannel bush must be conducted to replace those plants that have died or were never planted in the Guadalupe River area. One out of seven flannel bush now remain in the Guadalupe River area. To ensure their survival, irrigation checks must be made and new specimens planted to replace those dead or missing plants.

< The weed abatement activities for the Canoas Creek levee area should be reviewed with local agencies and coordinated such that the blackberry and other plant species in the mitigation area are no longer accidentally sprayed with herbicide.

< The planting basins around each shrub could be reshaped to resemble a bowl and additional mulch material applied to help retain water and suppress weeds. Investigation of the irrigation systems must be conducted to ensure the specified amount of water is being applied to the entire restoration site. This is especially true for the elderberry, buckeye, and Pride of Madeira in the Guadalupe River area and for the snowberry, coffeeberry, and blackberry in the Canoas Creek area.

< The tops of the coast live oaks and coffeeberry shrubs have been getting trimmed regularly. Neighboring homeowners and workers must be advised against these actions. Neighboring homeowners must also be advised to stop tossing their yard debris and other litter over their fences into the mitigation area along Canoas Creek. This has been an issue since 2002.

8.0 Names, Titles and Companies of Persons Conducting Field Work and Preparing Report

Jeff Olberding
Wetland Regulatory Specialist
Olberding Environmental, Inc.

David Simi
Biological Monitor
Olberding Environmental, Inc.

9.0 Conclusions

In conclusion, the surviving plants look healthy and have shown improvement in each monitoring year since 2002, but weeding, replanting, and general maintenance need to continue to ensure the goals of the mitigation site are reached in a timely manner. The removal of weeds will help the mitigation plants receive all the water that is intended for them. Based on the Year 7 monitoring event, it appears that neither weeding nor irrigation maintenance has been conducted for the Restoration Project for more than a year. Weed cover in the Canoas Creek planting area was at 100 percent and reached heights of 4-8 feet tall. Weed cover in the Guadalupe River planting area was at 50 percent and reached heights of 3-6 feet tall. The biological monitor spoke with a resident that lives along the Canoas Creek corridor who expressed his concern of the lack of maintenance in this area. His concerns were that weeds were taking over the site, the irrigation lines might not be working, and that the excessive leaf litter caused by the weeds was a major fire hazard. Maintenance crews must go to the Restoration Areas immediately along both the Guadalupe River and Canoas Creek corridors and weed the site, check the irrigation lines, and remove the litter along the Canoas Creek corridor that has been dumped there by local residents.

ATTACHMENTS

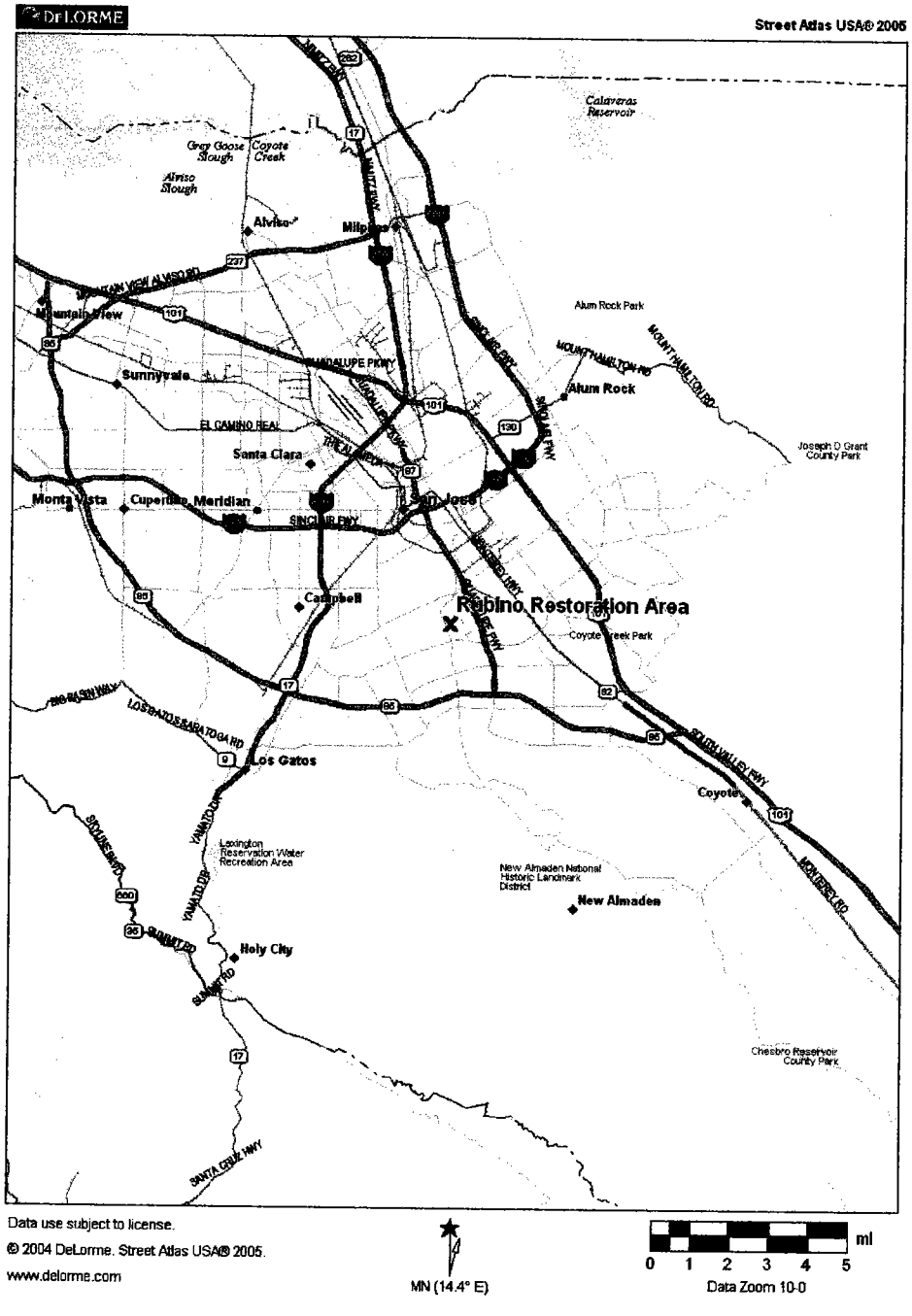
ATTACHMENT NO. 1

FIGURES

Figure No. 1	Regional Map
Figure No. 2	Vicinity Map
Figure No. 3	USGS Quadrangle Map for San Jose West and San Jose East
Figure No. 4	Aerial Photograph
Figure No. 5	Rubino Site Map
Figure No. 6	Canoas Creek Riparian Corridor
Figure No. 7	Guadalupe River Riparian Corridor

Figure No. 1

Regional Map



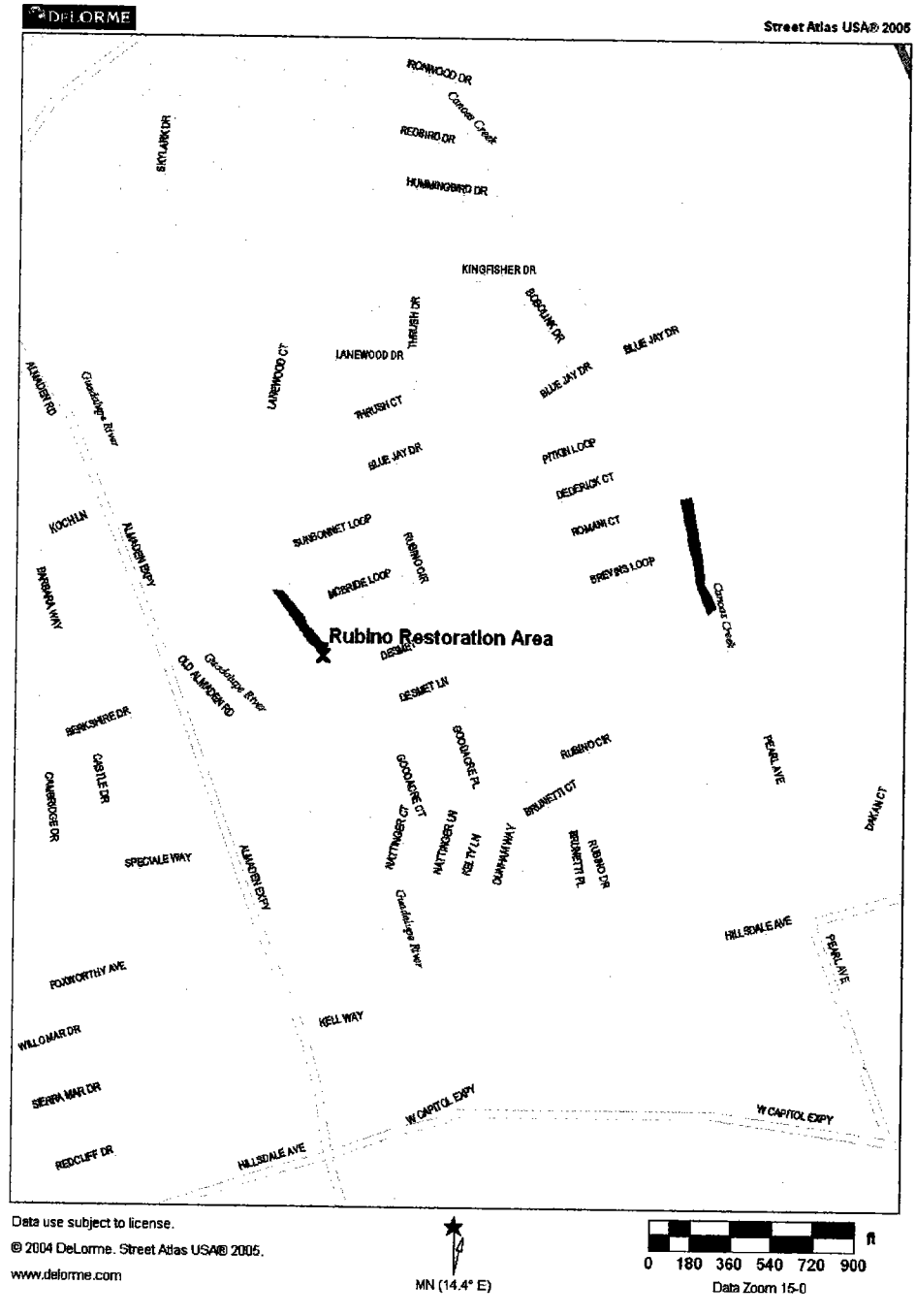
Olberding Environmental, Inc.
1390 Willow Pass Road, Suite 370
Concord, CA 94520
Phone: (925) 825-2111

This document is not intended for detail design work.

Figure 1
Regional Map of the Rubino Restoration Area
San Jose, California

Figure No. 2

Vicinity Map



Olberding Environmental, Inc.
1390 Willow Pass Road, Suite 370
Concord, CA 94520
Phone: (925) 825-2111

This document is not intended for detail design work.

Figure 2
Vicinity Map of the Rubino Restoration Area
San Jose, California

Figure No. 3

USGS Quadrangle Map for San Jose West and San Jose East

Olberding Environmental, Inc.
1390 Willow Pass Road, Suite 370
Concord, CA 94520
Phone: (925) 825-2111

This document is not intended for detail design work.

Figure 3
USGS Quadrangle Map of the Rubino Restoration Area
San Jose West/East Quad
San Jose, California

Figure No. 4

Aerial Photograph

Olberding Environmental, Inc.
1390 Willow Pass Road, Suite 370
Concord, CA 94520
Phone: (925) 825-2111

This document is not intended for detail design work.

Figure 4
Aerial Photograph of the Rubino Restoration Area
San Jose, California

Figure No. 5

Rubino Site Map

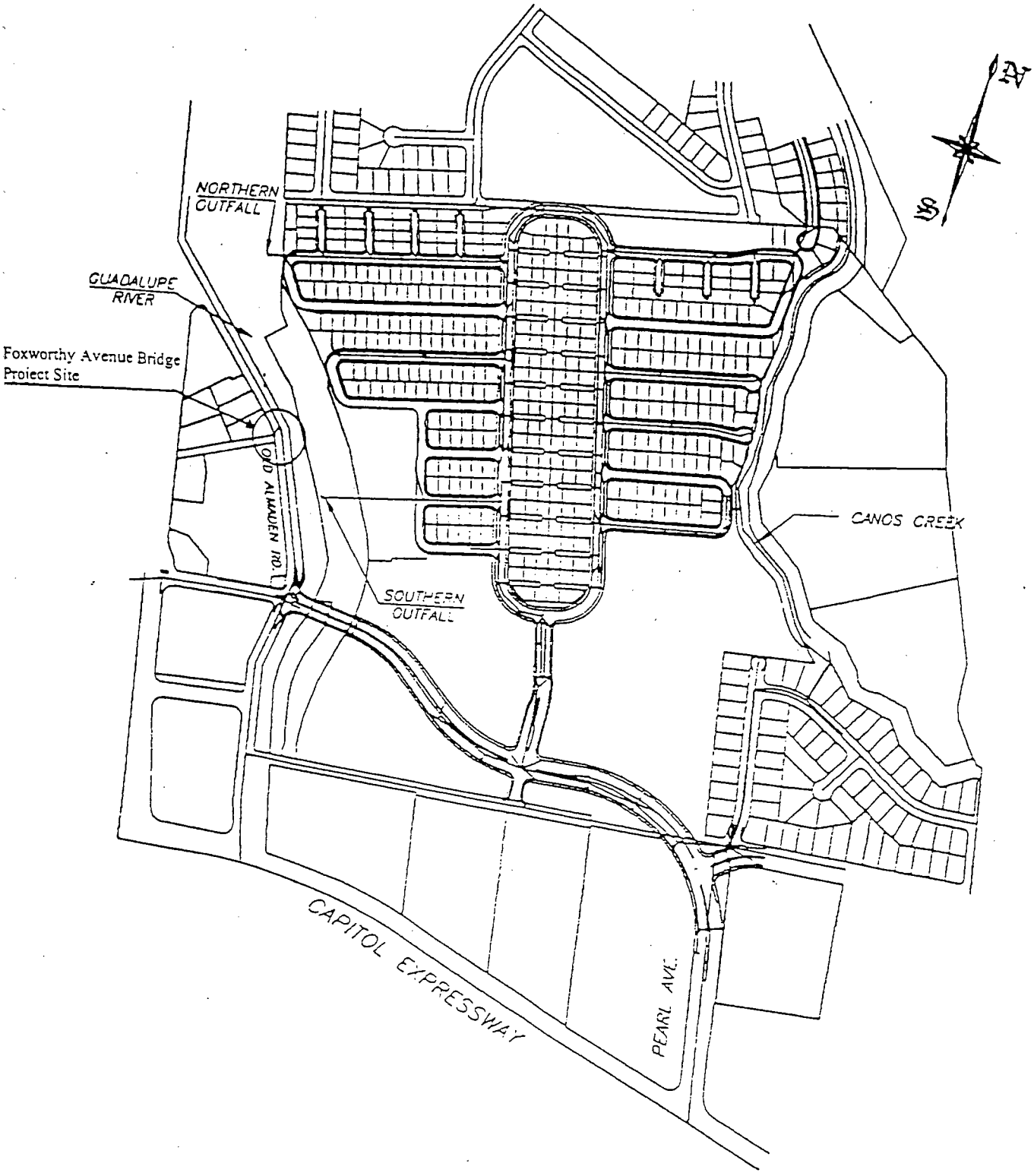


FIGURE 3

RUBINO SITE MAP

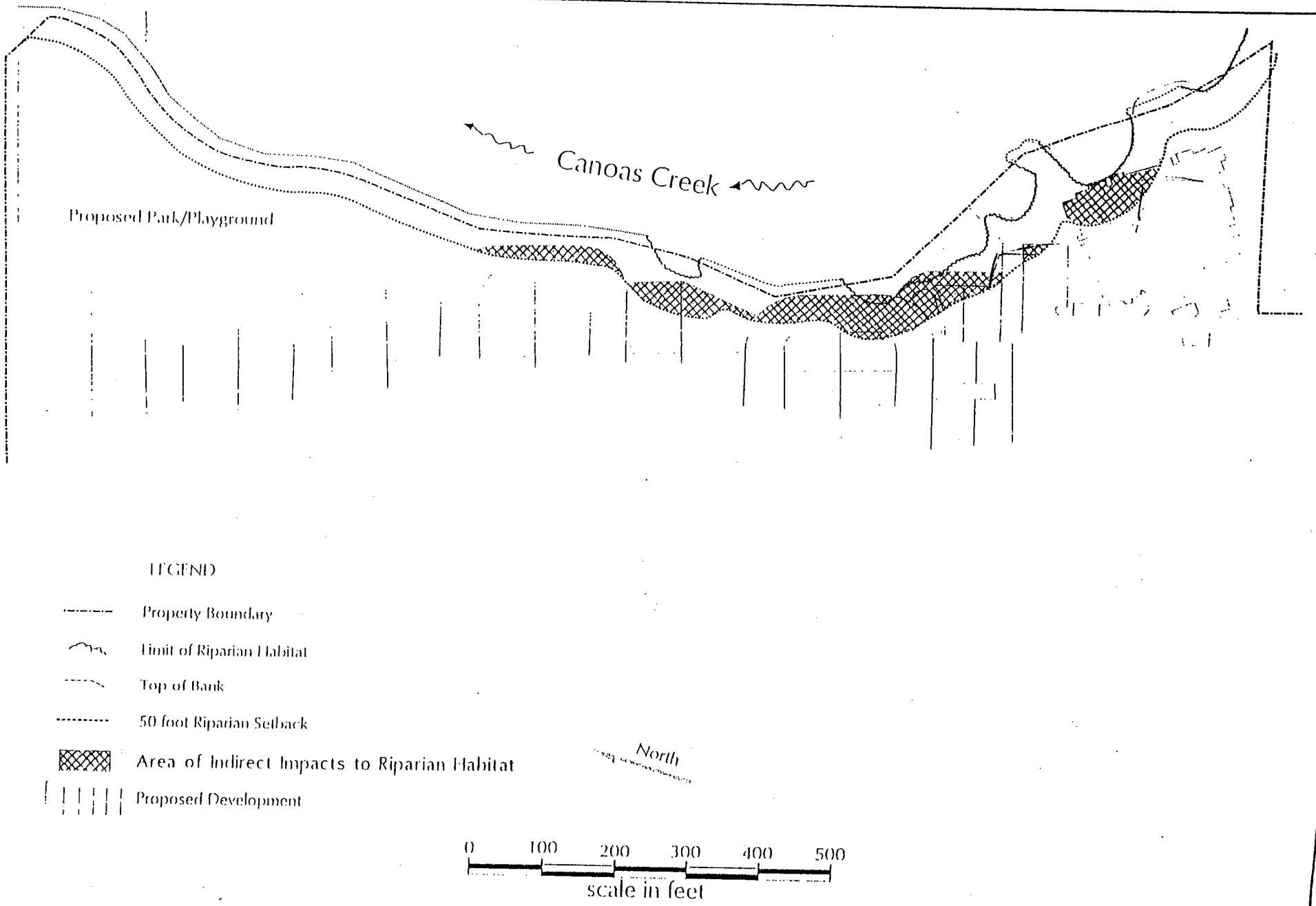
DATE: 3/11/98
SCALE: AS SHOWN
DRAWN BY: BDW
CHECKED BY:
JOB NO.: 1537

Charles M. Davidson Co.
A CALIFORNIA CORPORATION
CONSULTING CIVIL ENGINEERS
255 W. JULIAN ST. #200, SAN JOSE, CA.
PH. (408) 295-9162
RCE NO. 14218

PAY 5 BOLD

Figure No. 6

Canoas Creek Riparian Corridor

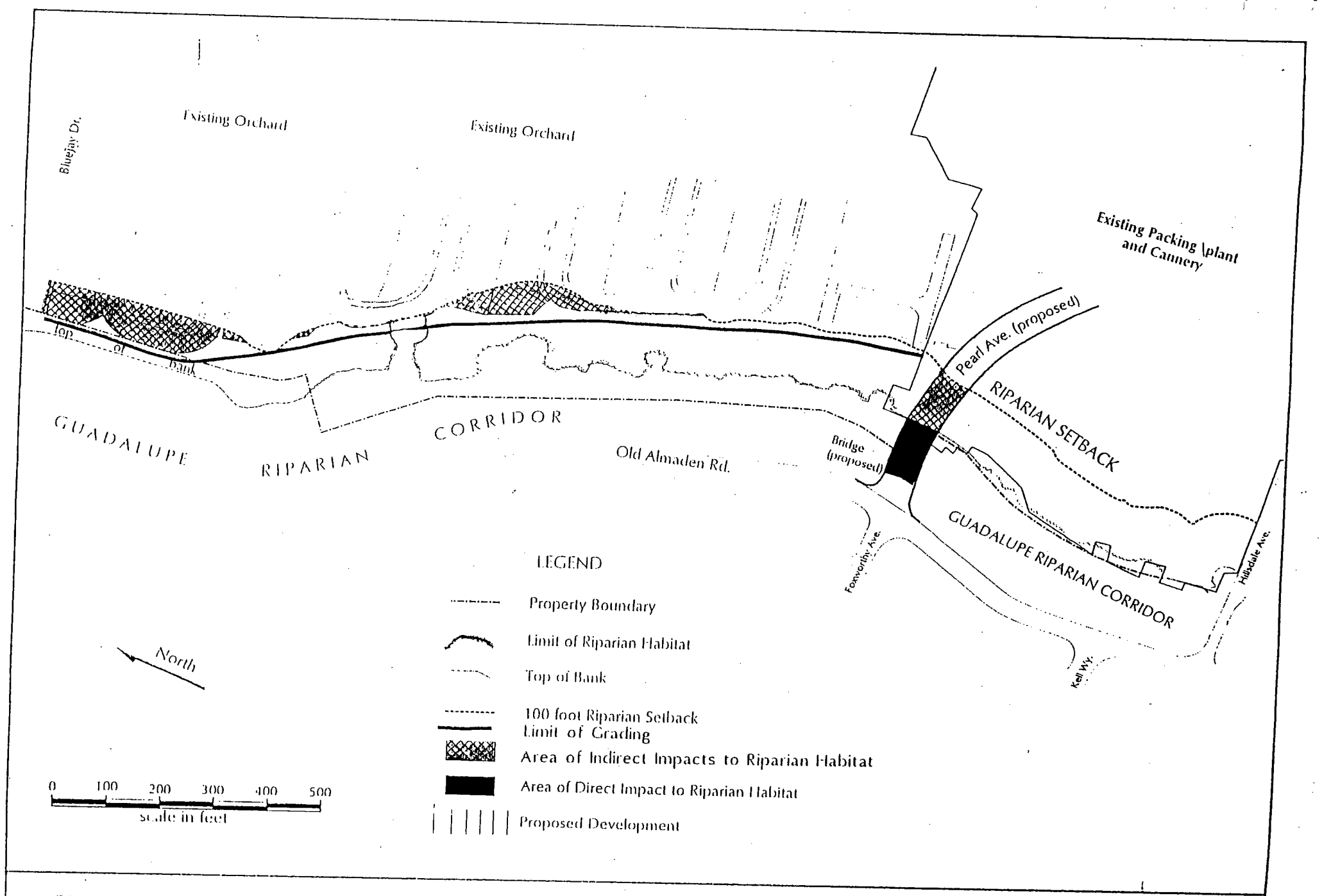


CANOAS CREEK RIPARIAN CORRIDOR

FIGURE 5

Figure No. 7

Guadalupe River Riparian Corridor



GUADALUPE RIVER RIPARIAN CORRIDOR

FIGURE 6

ATTACHMENT NO. 2

SITE PHOTOGRAPHS
(SPRING 2007)

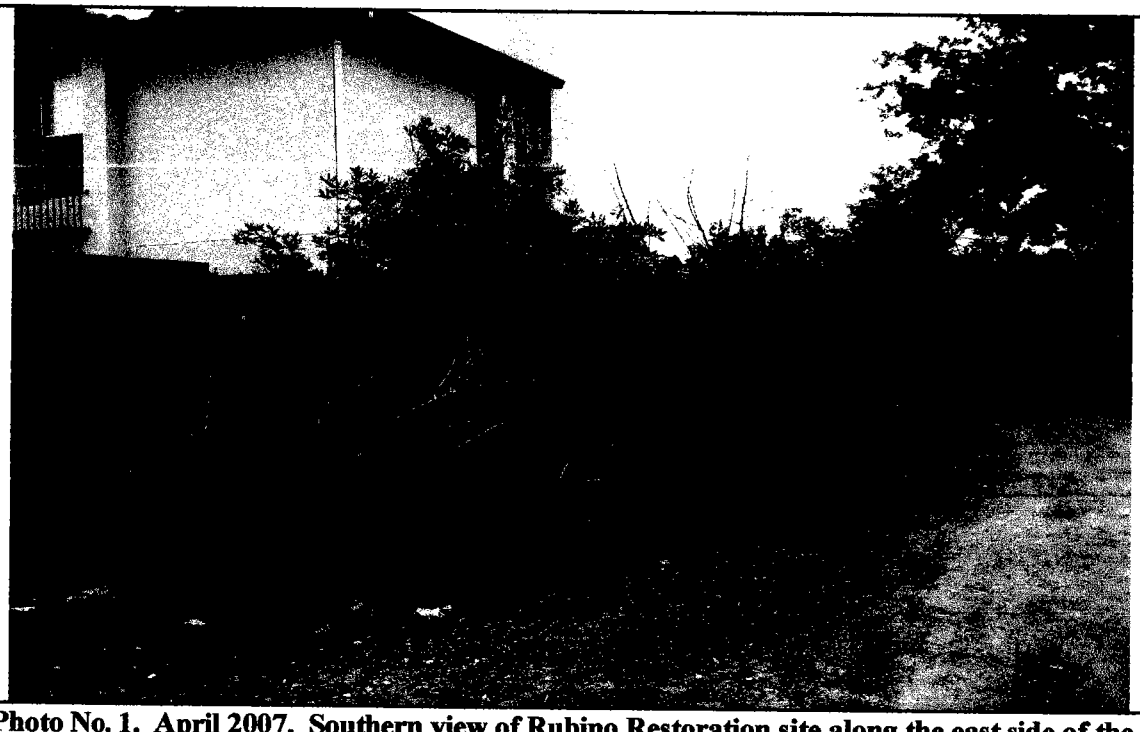


Photo No. 1. April 2007. Southern view of Rubino Restoration site along the east side of the Guadalupe River. Toyon shrubs look full and healthy.

Photo No. 2. April 2007. Southern view of Rubino Restoration site along the east side of the Guadalupe River west of Sunbonnet Loop.

Olberding Environmental, Inc.
Rubino Restoration Area – April 2007

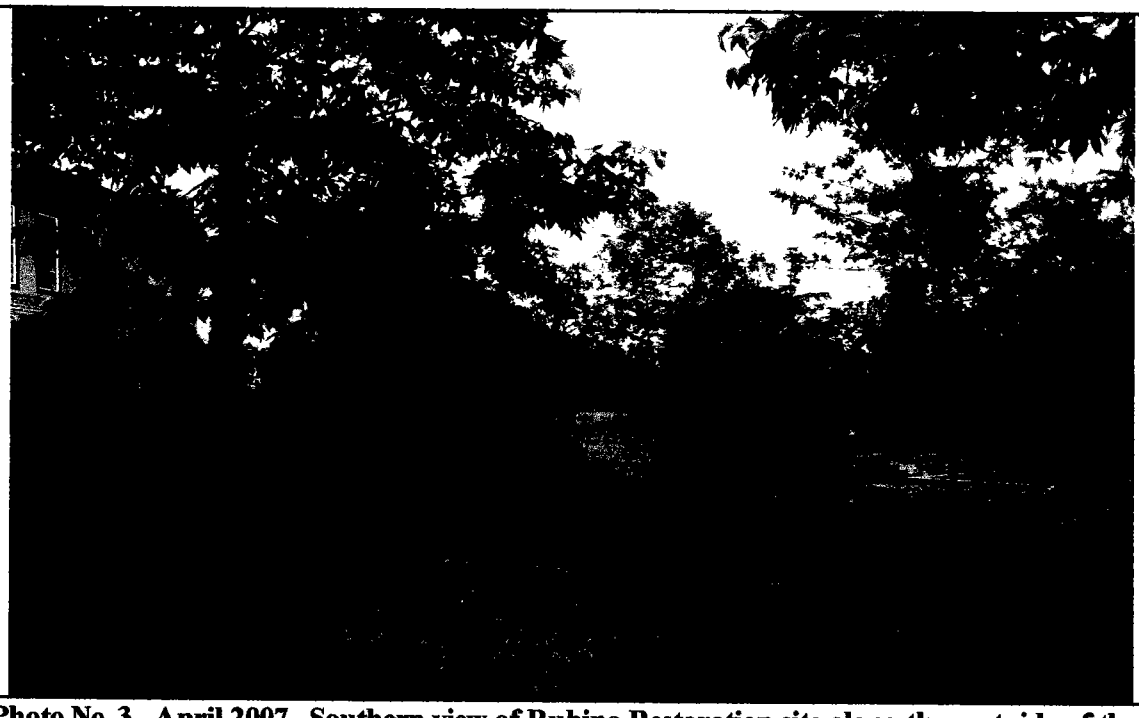


Photo No. 3. April 2007. Southern view of Rubino Restoration site along the east side of the Guadalupe River south from Sunbonnet Loop. Note the large size Pride of Madeira and toyon shrubs.

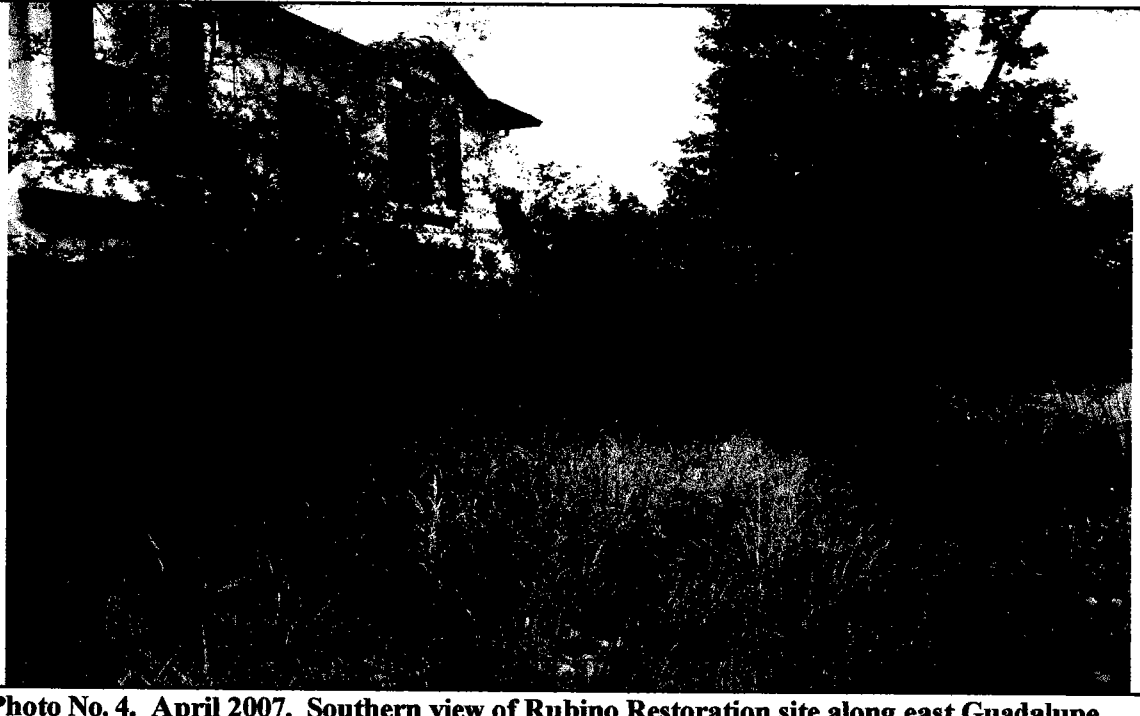


Photo No. 4. April 2007. Southern view of Rubino Restoration site along east Guadalupe River. Restoration area between Sunbonnet and McBride Loop.

Olberding Environmental, Inc.
Rubino Restoration Area – April 2007

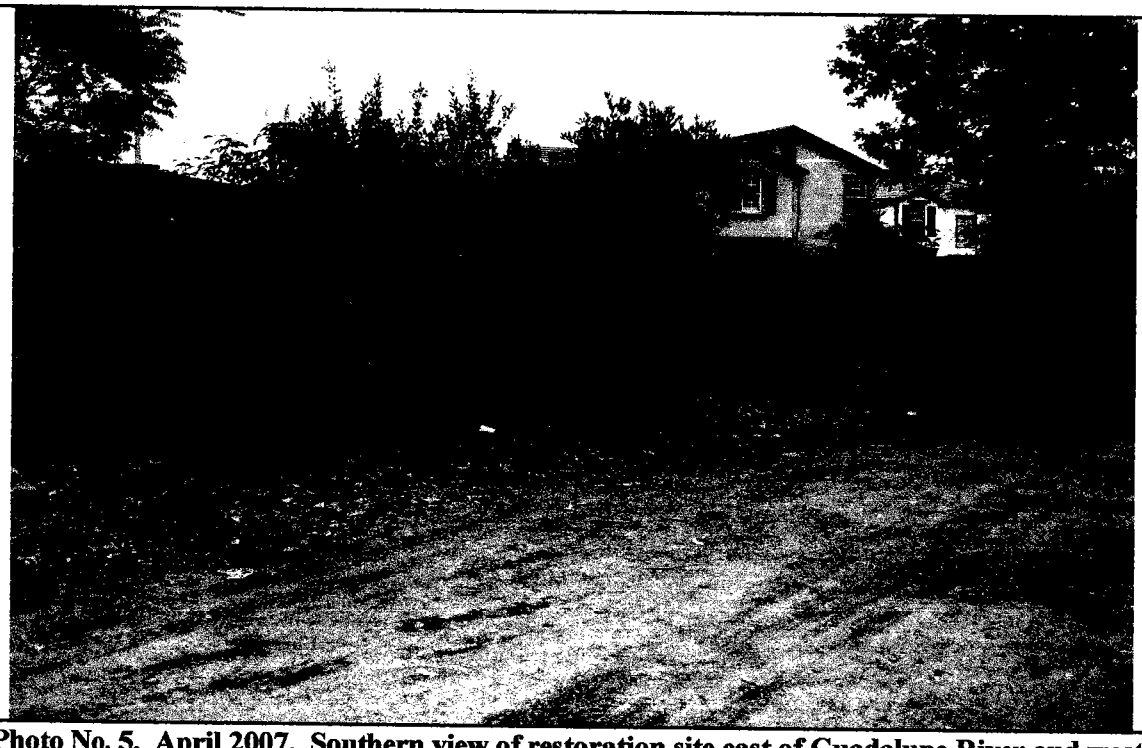


Photo No. 5. April 2007. Southern view of restoration site east of Guadalupe River and west of McBride Loop.

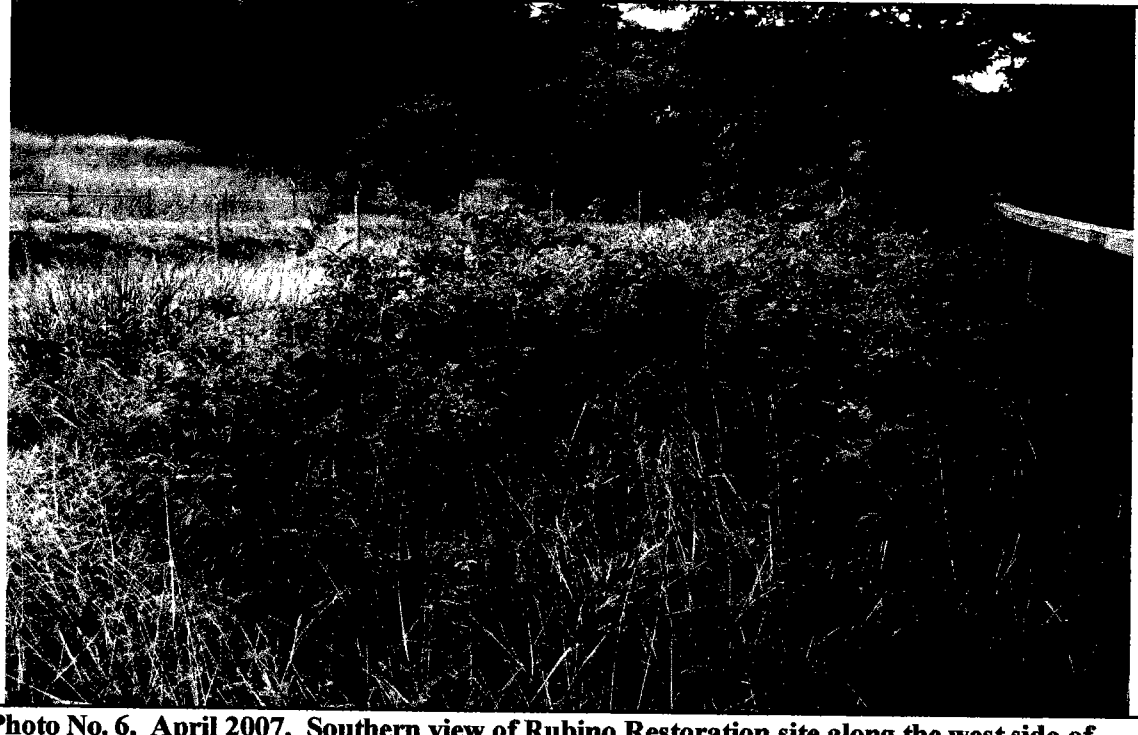


Photo No. 6. April 2007. Southern view of Rubino Restoration site along the west side of Canoas Creek.

Olberding Environmental, Inc.
Rubino Restoration Area – April 2007

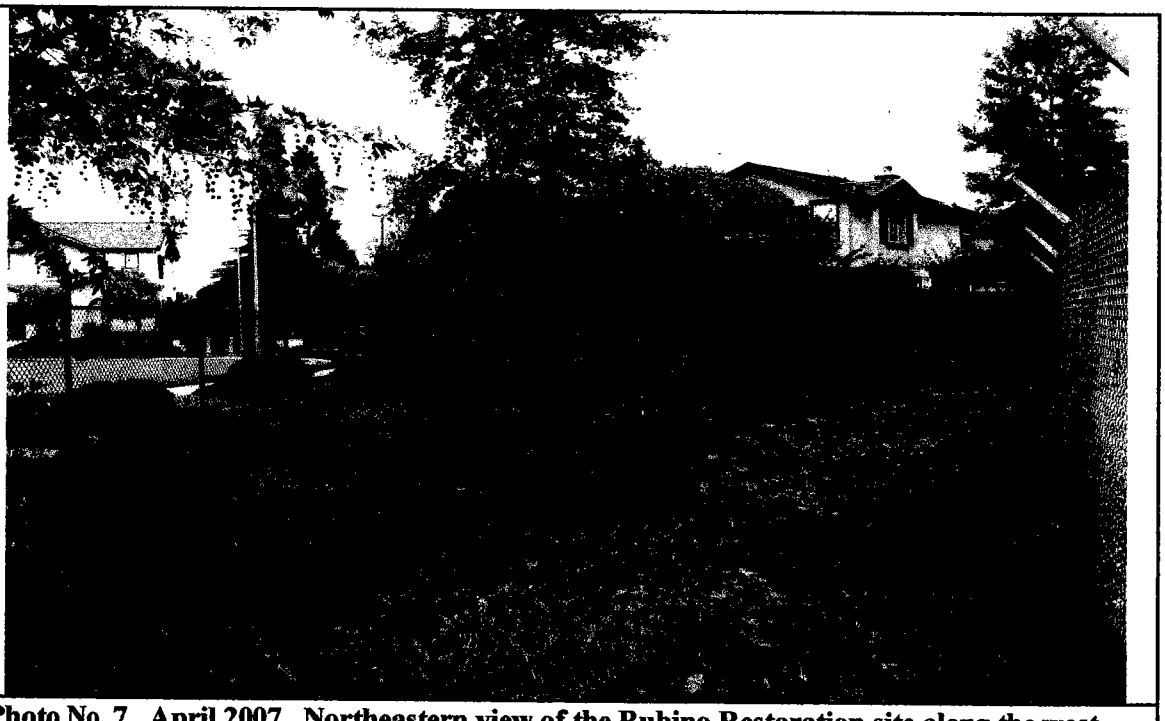


Photo No. 7. April 2007. Northeastern view of the Rubino Restoration site along the west side of Canoas Creek north of Atkin Loop. Weed growth is heavy along Canoas Creek.

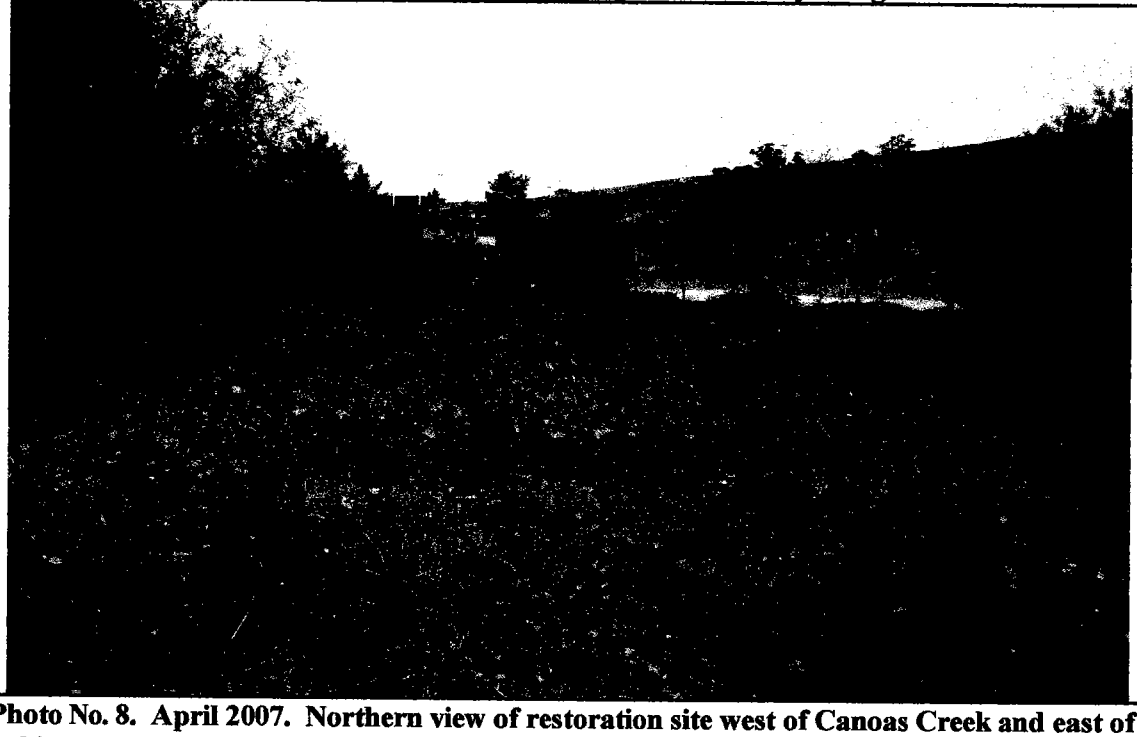


Photo No. 8. April 2007. Northern view of restoration site west of Canoas Creek and east of Atkin Loop. Large coffeeberry shrubs observed in background. Note the heavy weed growth throughout this section of the restoration site.

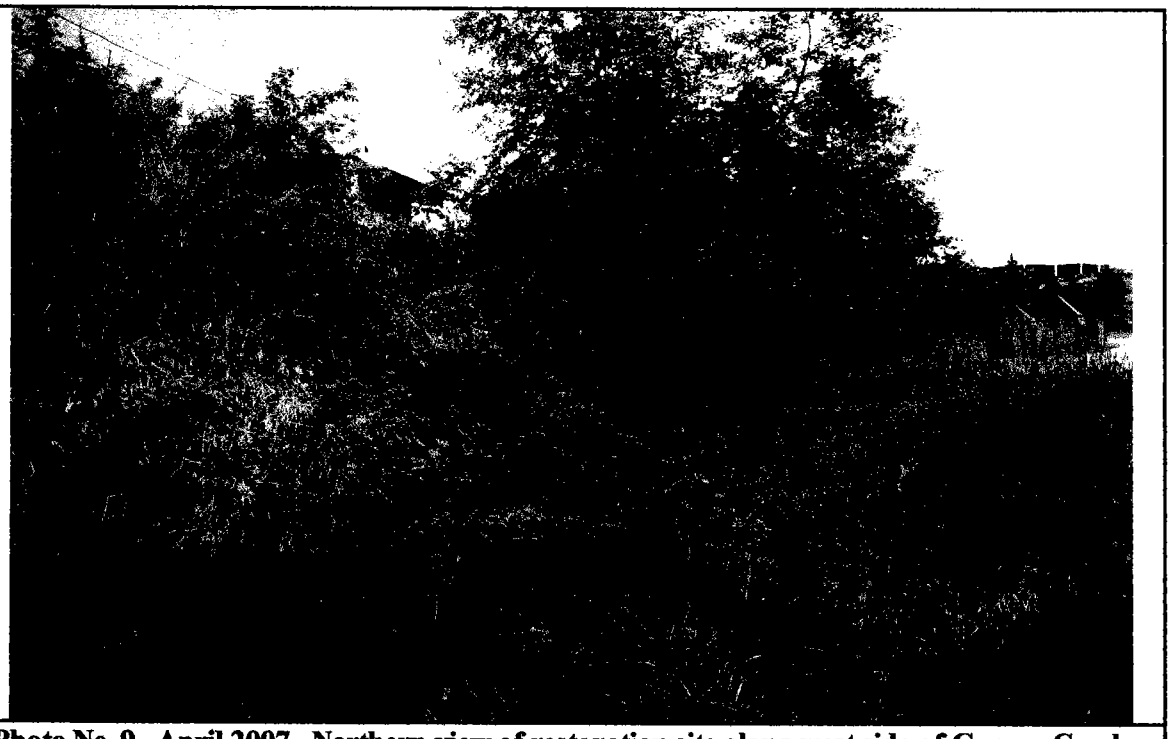


Photo No. 9. April 2007. Northern view of restoration site along west side of Canoas Creek east from Dederick Court.

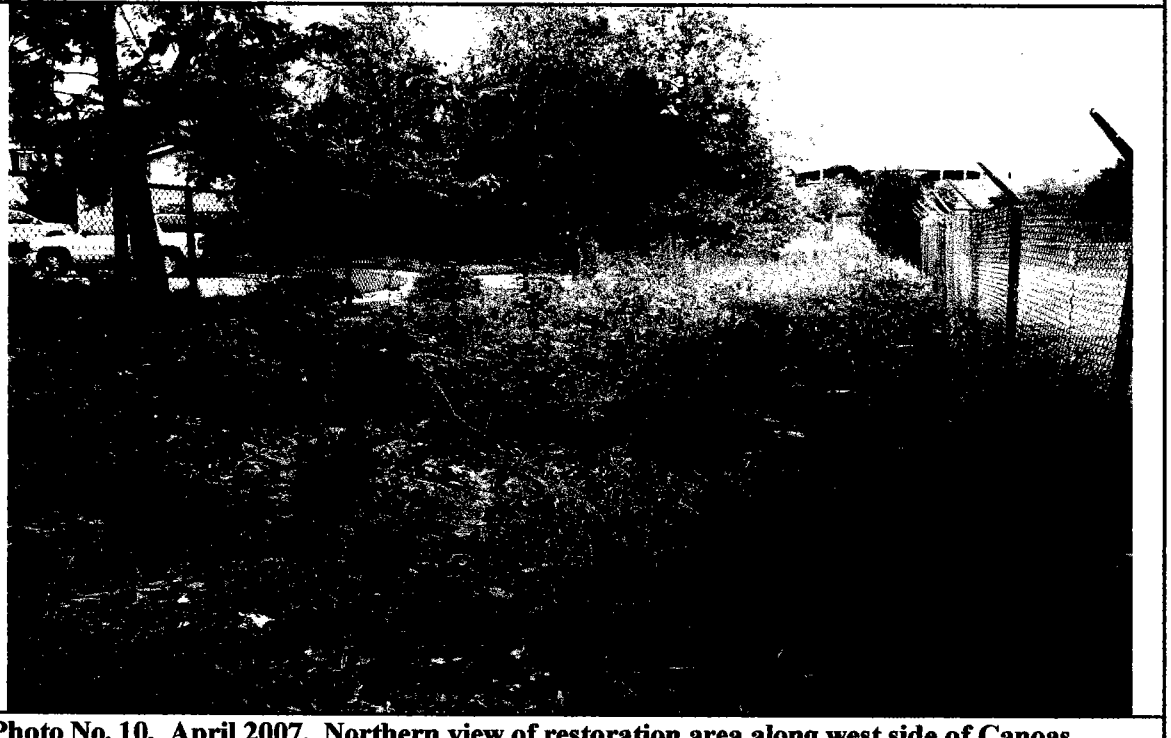


Photo No. 10. April 2007. Northern view of restoration area along west side of Canoas Creek east from Romani Court.

Olberding Environmental, Inc.
Rubino Restoration Area – April 2007

Photo No. 11. April 2007. Rubino Restoration Area viewed north from Brevins Loop. Large coffeeberry shrubs and California rose have grown to tall heights.

Photo No. 12. April 2007. Large size coffeeberry specimen exhibits excellent growth habitat.

Olberding Environmental, Inc.
Rubino Restoration Area – April 2007

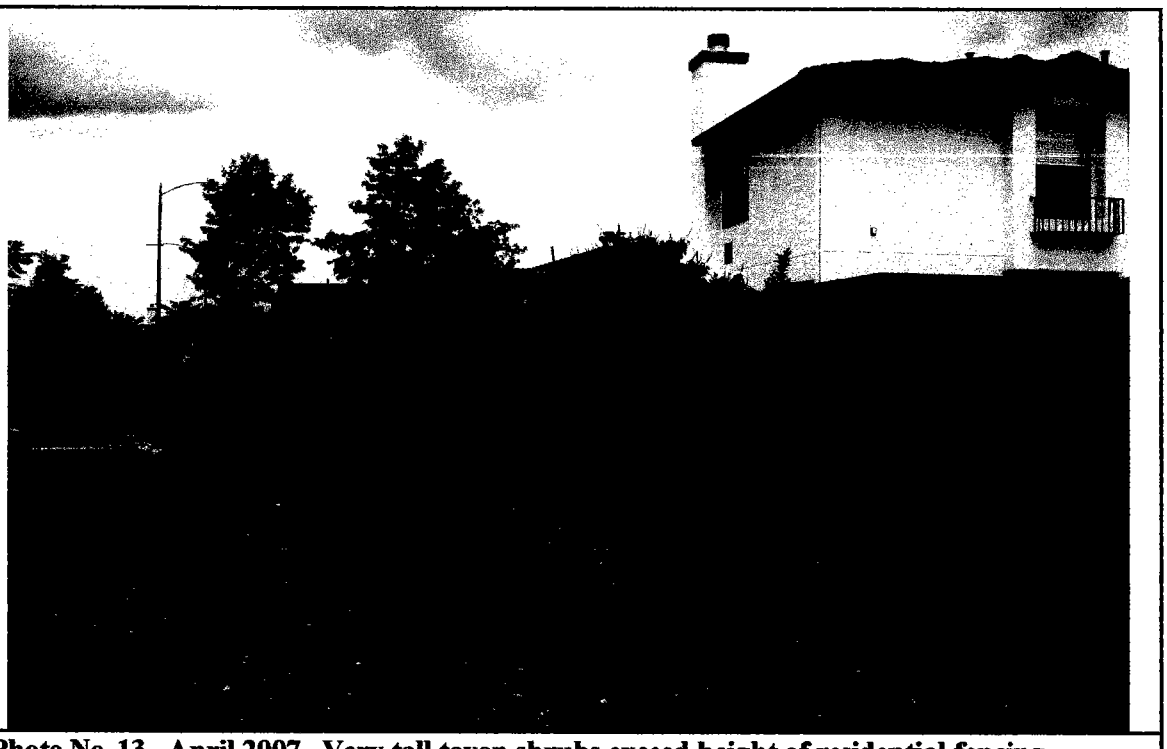


Photo No. 13. April 2007. Very tall toyon shrubs exceed height of residential fencing.

Photo No. 14. April 2007. Coffeeberry shrub with excellent new growth emerging from all buds.

Olberding Environmental, Inc.
Rubino Restoration Area – April 2007